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Spencer Glacier Mineral Material and Recreation Withdrawal Proposal and Application Environmental Assessment

**Chugach National Forest
Glacier Ranger District
Girdwood, Alaska**

**Prepared in cooperation with:
The Bureau of Land Management
Anchorage Field Office
Anchorage, Alaska**



For Information Contact:
Tim Holden
P.O. Box 129
Girdwood, Alaska 99587
[Phone: 559-920-5515]

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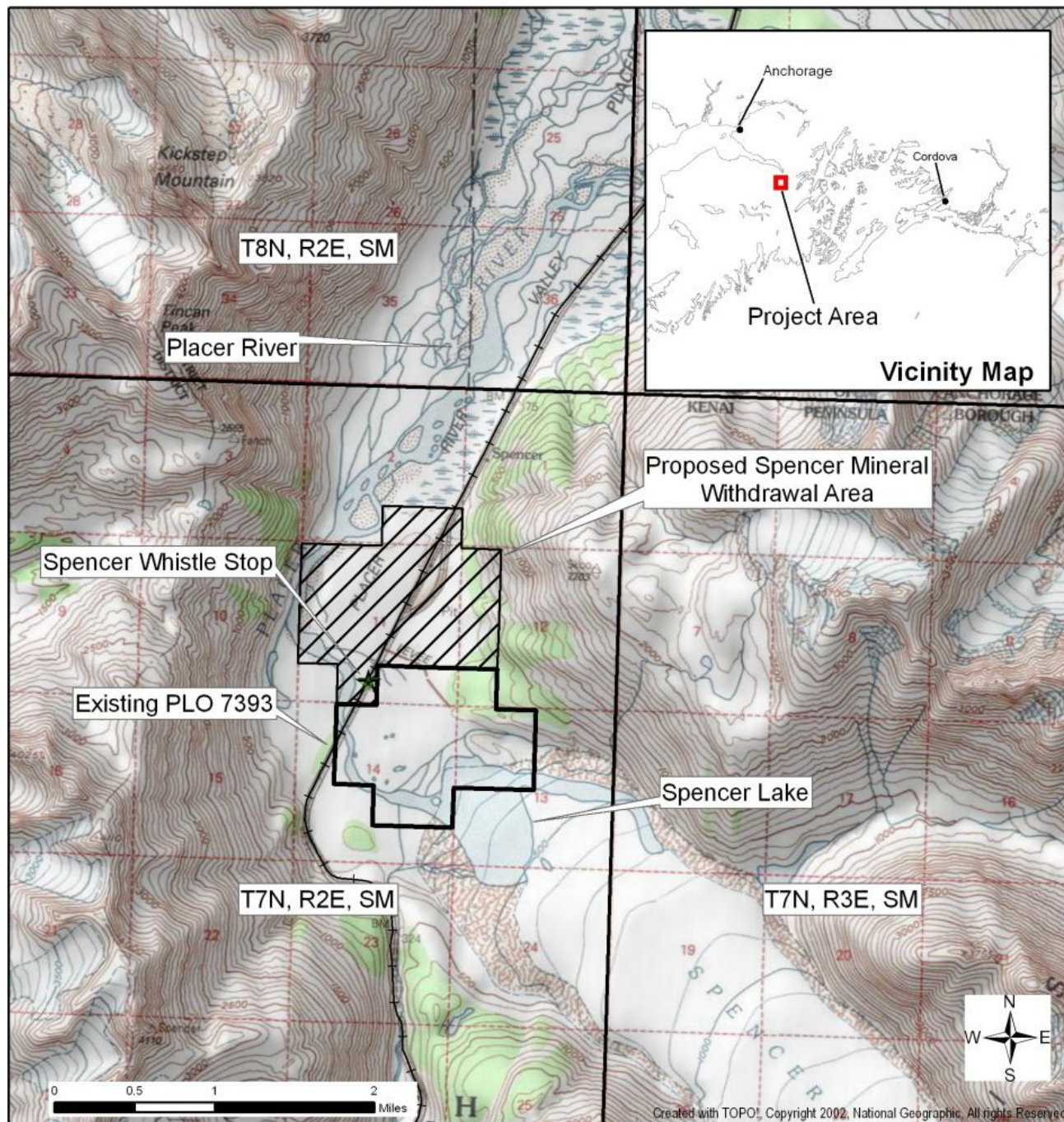


Figure 1 Proposed Spencer Mineral Material and Recreation withdrawal area

1. Introduction

The U.S. Forest Service has submitted a proposal and application to withdraw 720 acres of public land within the Chugach National Forest from entry under the Federal Mining Law of 1872¹.

1.1 Authority

The Secretary of the Department of the Interior is authorized to withdraw lands from the public domain for the purpose of maintaining other public values or reserving the area for a particular public purpose or program.²

The lands proposed for withdrawal are described as:

Seward Meridian

T. 7 N., R. 2 E., Un-surveyed

Sec. 2, S½SE¼;

Sec. 11, N½, N½S½, and SE¼SW¼;

Sec. 12, W½NW¼ and NW¼SW¼,

Chugach National Forest, Alaska, (see Figure 1), containing approximately 720 acres.

Notice of the withdrawal proposal and application was published in the *Federal Register* on February 27, 2007.³ Pending adjudication of the withdrawal proposal and application,⁴ the lands are segregated from mineral entry under the Federal Mining Law of 1872.⁵ The segregation of the lands will expire on February 28, 2009.⁶

This environmental assessment is prepared in accordance with the provisions of the National Environmental Policy Act of 1969,⁷ its implementing regulations,⁸ and 43 CFR §2310.3-2. The U.S. Department of the Interior's Bureau of Land Management (BLM) is a cooperating agency in the preparation of this environmental analysis.⁹

¹ R.S. §2319 derived from Act of May 10, 1872, ch. 152 §1, 17 Stat. 91, 30 U.S.C. §22 et seq.

The lands which are the subject of the withdrawal application and proposal are immediately north of and adjacent to lands withdrawn from entry under the Federal Mining Law of 1872 by Public Land Order 7393, 64 Fed. Reg. 29064, 29065 (May 28, 1999).

² The Federal Land Policy and Management Act of 1976, 43 U.S.C. §1714 and 43 CFR Part 2300.

³ Department of the Interior, Bureau of Land Management, 72 Fed. Reg. 8777, 8778 (February 27, 2007).

⁴ 43 CFR § 2310.3-2.

⁵ *Ibid.*

⁶ 43 CFR §2310.2(a).

⁷ 42 U.S.C. 4331, *et. seq.* 2006.

⁸ Title 40 of Code of Federal Regulations.

⁹ 40 CFR §1501.6 and 43 CFR §2310.3-2(b)(3)

1.2 Other Documents Incorporated by Reference

The following environmental documents and the analyses contained therein are incorporated by reference:

1. *Record of Decision and Final Environmental Impact Statement, Chugach National Forest, Land Management Plan Revision*, May 2002.¹⁰
2. *Upper Turnagain Landscape Assessment*, July 2004.¹¹
3. *Record of Decision and Whistle Stop Final Environmental Impact Statement*, May 2006.¹²
4. *Spencer Mineral Materials Project Draft Environmental Impact Statement*; April 2008.¹³
5. *Spencer Integrated Weed Management Environmental Assessment*, January 2009.¹⁴

1.3 Resource Management Plan and Implementation Conformance

The proposed action will further the management directions outlined in the Chugach Forest Plan and will facilitate the Forest Service's decisions in the Whistle Stop Project Record of Decision and those that to be made by the Forest Service in the Spencer Glacier Mineral Material Record of Decision by:

- Providing a substantial and fairly accessible source of mineral materials (sand, gravel, and quarry rock) for competitive sale; and
- Protecting a substantial Forest Service investment in existing structures and infrastructure constructed and being maintained for the Whistle Stop Project (and resulting/associated special use permits for additional recreation opportunities) from potential removal or destruction by new locatable mineral claims and development.

Competitive mineral material sales were contemplated by and are in conformance with the Chugach National Forest *Revised Land and Resource Management Plan Environmental Impact Statement* (Plan) as provided at pages 3-496 and 497: "Salable minerals are generally sold by competitive sale to the highest bidder All lands on the Chugach National Forest are open for permit application for salable minerals, with the exception of the Nellie Juan-College Fiord Wilderness Study Area and certain small withdrawn areas." With regard to the mineral materials found at Spencer Glacier, page 3-506 of the Plan provides:

One important source of riprap and armor stone on the Forest, the 600-acre Spencer Glacier Mineral Materials Site, would be available under all alternatives. This source is significant because of its location along the railroad, large volume of material available, being a developed quarry, and containing a type of material that is in demand.

¹⁰ http://www.fs.fed.us/r10/chugach/forest_plan/plan_docs1.html

¹¹ http://www.fs.fed.us/r10/ro/policy-reports/ep/eco_assess/upper_turnagain_la.pdf

¹² http://www.fs.fed.us/r10/chugach/news_releases/whistle_stop/index_w-stop.html

¹³ <http://www.fs.fed.us/r10/chugach/deis/spencer/index.html>

¹⁴ http://www.fs.fed.us/r10/chugach/news_releases/spencer_weed-ea/spencer_iwm_ea_final.pdf

Recreational development at Spencer Glacier was also contemplated under the Plan, page 3-507 provides: “In the Preferred Alternative and Alternatives C and D, there could be a developed recreational complex (about 50 acres) at Spencer Glacier.”

Withdrawal of lands from mineral entry under the Federal Mining Law of 1872 was also contemplated, pages 3-497 and 498 provide:

The Revised Forest Plan does not affect the quantity or quality of locatable minerals, but it will affect [through withdrawal] the number of acres where mineral exploration and development are allowed ... All withdrawals however, are subject to valid existing rights.

When a Record of Decision is issued for the selected alternative, the Forest Service may request that the BLM withdraw certain management areas from all forms of mineral entry [under the Federal Mining Law of 1872]...Additionally, developed campgrounds or other facilities may be withdrawn.

1.4 Background



Figure 2. Spencer Glacier, Chugach National Forest, Kenai Peninsula, Alaska.

The Spencer Glacier area has been used for over a century for a variety of purposes including mineral development and recreation. The Alaska Railroad’s rail bed traverses the area. There is no road access to the area. There is however a limited road system within the proposed withdrawal area that facilitated historic mineral material development.

Mineral material deposits at Spencer Glacier are important because of their location along the railroad, volume, an established quarry, and mineral material that is in demand.¹⁵ These gravel and

¹⁵ The Forest Service’s assertion that mineral material is in “demand” rests upon a solicitation of interest by the Forest Service: “... multiple responses were received to a solicitation of interest issued by the Forest Service for potential

quarry rock resources have been used since the early 1900s for a variety of projects, and there are no comparable sites in the area.¹⁶ The railroad established pits in the Spencer Glacier area in the early 1900s for sand, gravel, and quarry rock. Today, the Alaska Railroad continues to extract the material for railroad purposes under a contract with the Forest Service.

Between 1984 and 1999 a mineral material operator under contract with the Forest Service filed fourteen (14) mining claims over the historic mineral material sites at Spencer Glacier. These mining claims impede the Forest Service's ability to competitively market the mineral material. Substantial unencumbered mineral material deposits remain in the northwest portion of the proposed withdrawal area, area 3, Figure 13. The filing of additional mining claims over these deposits will further impede the Forest Service's ability to bring mineral material to market. There may be as much as 19 million tons of aggregate in the proposed withdrawal area with 7 million tons unencumbered, *Spencer Mineral Materials Project Draft Environmental Impact Statement*, page 47.

The proposed withdrawal area is adjacent to lands withdrawn under Public Land Order 7393, dated May 28, 1999. Public Land Order 7393 withdrew 600 acres of land from entry under the Federal Mining Law of 1872 in order to reserve the land's mineral materials for disposal. The duration of the Public Land Order withdrawal is 15 years and is set to expire on May 28, 2014. A substantial portion of this withdrawal area is encumbered by mining claims. The developed quarry is within this withdrawal area, area 1, Figure 13. It may contain as much as 20 tons of quarry rock. The existing withdrawal area and the proposed withdrawal area do not overlap.

The Forest Service may offer for competitive sale mineral materials that overlay mining claims; however, removal of mineral material from unpatented mining claims can only occur with prior notice to the claimant and only where "... it has been determined that removal will neither endanger nor materially interfere with prospecting, mining, or processing operations or uses reasonably incident thereto on the claims."¹⁷

Recreation within the area has expanded over the last 10 years. There are multiple special use permit holders for rafting and other uses. There is a formal railroad stop (Whistle Stop) within the



Figure 3. Recreation infrastructure within proposed withdrawal.

removal of rock, sand and gravel," *Spencer Integrated Weed Management Environmental Assessment*, January 2009, page 10.

¹⁶ See discussion at Paragraph 3.5.

¹⁷ 36 CFR §228.41(b)(3)

proposed withdrawal area with multiple hiking and interpretive trails leading from it. The Forest Service has invested in excess of \$520,000 in facilities and infrastructure inside the proposed withdrawal area, (Figure 3).

1.5 Purpose and Need for Action

Placer mining claims that overlay common variety deposits of mineral materials hinder or impede competitive sale of mineral materials. The purpose of the proposed action is to prevent future location of mining claims, which would encumber an area known to contain common variety sand and gravel.

A secondary purpose of the proposed action is protection of recreational infrastructure.

1.6 Proposed Action

The proposed action is to withdraw approximately 720 acres of Federal mineral estate from location and entry under the United States General Mining Law of 1872, subject to valid existing rights.

1.7 Public Involvement¹⁸

Notice of the proposed withdrawal and segregation order was published in the *Federal Register* on February 27, 2007. Public comments were accepted for 90 days, through May 29, 2007.

Only one comment was received. It came from one of the former mineral material operators who filed mining claims on the historic mineral material sites, Mr. Pelham L. Jackson. Mr. Jackson asserted that a withdrawal for mineral materials was unnecessary as the Forest Service could enter into a noncompetitive mineral material sales contract for the tailings off of Mr. Pelham L. Jackson and J. Dennis Stacey's placer mining claims. The comment is addressed here as an alternative to the proposed action but dismissed as failing to meet the purpose and need of achieving unimpeded competitive mineral material sales, Paragraph 2.1.1.

Additional public involvement opportunities were provided in conjunction with the Forest Service's *Draft Environmental Impact Statement, Spencer Mineral Materials Project*.

¹⁸ 43 CFR §2310.3-2(b).

2. Alternatives, including the Proposed Action

Alternative 1—No Action. Under the no-action alternative, the proposed withdrawal area would remain open to locatable mineral entry under the Federal Mining Law of 1872. Under this alternative the Forest Service's ability to engage in competitive mineral material sales may be impeded by entry under the Federal Mining Law of 1872.

Alternative 2—The Proposed Action. The Forest Service has proposed and applied for a withdrawal of the lands from entry under the Federal Mining Law of 1872 in order to reserve the lands' mineral materials for unimpeded competitive sale and to maintain the lands for recreational use.¹⁹ The BLM may recommend to the Secretary of the Interior that the lands be withdrawn from mineral entry under the Federal Mining Law of 1872.²⁰

2.1 Alternatives Considered but Eliminated from Detailed Study

There were two alternatives considered, but dropped from detailed analysis. Below are the alternatives considered and the rationale for why they were eliminated from detailed study.

1. *Award, non-competitively, a sand, gravel, and rock contract to the former mineral material operators who filed the mining claims atop the historic mineral material sites as suggested by Mr. Pelham L. Jackson in his comment letter to the BLM dated May 29, 2007.* This alternative would not meet the purpose and need of attaining unimpeded competitive sales of mineral materials and was dismissed from further consideration.
2. *Purchasing potentially affected mining claims from P.R. Mine to avoid additional conflict.* This alternative fails to meet the purpose and need as the lands would remain open to entry under the Federal Mining Law of 1872, which may continue to impede competitive sale of mineral materials. This alternative was dismissed from further consideration.

¹⁹ Note 13 *supra*.

²⁰ Note 14 *supra*.

3. Affected Environment

This section identifies the human environment, as outlined in 43 CFR §2310.3-2, in which the proposed action or alternative would occur. A substantial portion of the material presented here has been garnered from the documents referred to in Paragraph 1.2.

3.1 Users and uses, 43 CFR §2310.3-2(b)(1)

For the purposes of this analysis there are three different user groups: recreational users, mineral material developers, and locatable mineral developers. The contemplated management uses by the Forest Service for the proposed withdrawal area are recreation - camping, hiking, canoeing, etc. independently and under special recreation permits, and mineral material development aimed at competitive mineral material sales. Both uses are contemplated within the context of the valid existing rights of mining claimants.

Mineral Material use and development. The Spencer Glacier area contains quarry rock and sand and gravel deposits. The proposed withdrawal area at Spencer Glacier contains sand and gravel deposits. The resources at Spencer Glacier have been used for various projects throughout the state for over a century. The Alaska Railroad used them at the turn of the twentieth century for railroad purposes and continues to use them today under contract with the Forest Service. The area's quarry rock has been used as rip rap and armor stone for various construction projects including harbor development by the Army Corps of Engineers (Figure 4). While acceptable source areas for mining mineral materials are becoming scarce in the Anchorage area, the Spencer Glacier area contains approximately 20 million tons of quarry rock and as much as 27.5 million tons of aggregate. Response to solicitations by the Forest Service indicates that there is interest in the mineral materials at Spencer Glacier from local producers of quarry rock and sand and gravel, *Draft Environmental Impact Statement, Spencer Mineral Materials Project*, pages 3 and 4. The Spencer Glacier mineral material deposits are located well outside of the urbanized areas of the Kenai Peninsula yet the materials can readily be brought to market by rail.



Figure 4. Riprap extraction

Locatable mineral development. There are four placer mining claims wholly within the proposed withdrawal area, (Figure 5). There are fragments of four placer mining claims that overlap the proposed withdrawal area. The four placer claims wholly within the proposed withdrawal area have not been subjected to validity examination; the four claims that overlap the proposed withdrawal area have and have been found valid. There has been no locatable mineral production from any of the claims, although the claimants continued to file annual fees and occasionally submit a plan of operations.

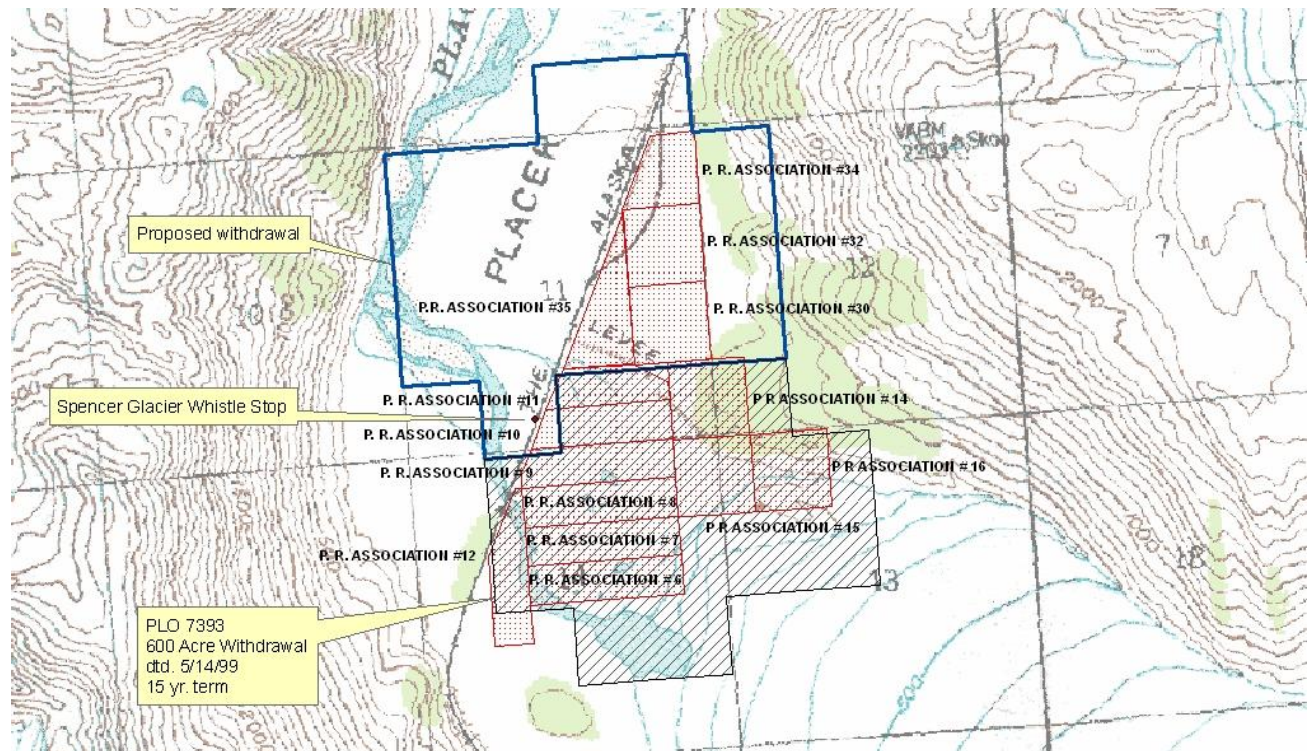


Figure 5. Placer Mining Claims

Recreation.

Summer Use. Due to the lack of public roads and trails, the Spencer Glacier area and the Placer River Valley have historically been relatively inaccessible to the majority of Chugach National Forest visitors. Recreation use in the area was generally much lower than road-accessed portions of the Forest and overall summer use prior to 2007 was relatively low because of strenuous or costly access to this area.

The main avenue of transportation into the area is via the Alaska Railroad (Figure 6). The Alaska Railroad conducts daily passenger trips throughout the area during the summer (Table 1). Because there was no developed infrastructure in the area prior to 2007, the Railroad would not allow the public to disembark the train for public safety reasons, e.g. risks associated with people walking along the tracks.

Table 1. Existing Alaska Railroad passenger service to Spencer Glacier

Service	Name of Trip	Train Route	Capacity	Round Trips/Day
Existing	Coastal Classic	Anchorage-Portage-Seward	205	1 (summer)
Existing	Glacier Discovery	Portage-Spencer-Grandview	205	1 (summer)
Existing	Grandview (Chartered cruise ship trips)	Varies	304	< 1 (summer)
Existing	Ski Train	Portage-Spencer-Grandview	750	1 trip/year (winter)

**Figure 6. Alaska Railroad Access to Spencer Glacier**

Beginning in August of 2007 recreation use in the Placer River Valley and specifically at Spencer Glacier increased with completion of the Forest Service's Spencer Whistle Stop. In August, the Alaska Railroad allowed all passengers, both private and those with an outfitter/guide, to disembark from the train at the Spencer Whistle Stop. While recreation use is focused near developed recreation sites and facilities (Whistle Stop station, trail system, developed campsites, etc.), visitors are not required to stay within these boundaries and can engage in recreation activities throughout the entire Spencer Glacier area (Figures 7 and 8). Alaska Railroad plans call for indefinite continuation of the existing train schedule, which involves one train dropping off passengers each day (see Table 1). In the future, with increased ridership and procurement of additional rolling stock, the Alaska Railroad may provide additional trains to drop passengers off at the Spencer Whistle Stop.



Figure 7. Rock climbing, camping, trails.

Use increases in mid-August when fishing opportunities increase and in September when duck hunting begins (S. Stash 2005, *personal communication*). Outfitter/guide boat use on the Placer River is infrequent. Fewer boats travel up the Placer River towards Spencer Lake, possibly because fish populations are higher on the lower Placer River. Access by air and foot occurs, but rates are unknown. Due to a lack of developed infrastructure (such as trails), and the remote nature of the area, foot traffic is believed to be extremely low (with encounters less than one to two parties per day) throughout the area—mostly hunters, anglers, and rugged backcountry adventurers.



Figure 8. Guided rafting Spencer Lake.

Currently the Alaska Railroad carries both freight and passengers through the proposed withdrawal area multiple times per day. Up to three trains per day pass through the proposed withdrawal area carrying passengers during the summer: The Coastal Classic and Glacier Discovery both operate daily from mid-May to mid-September, and a train chartered by cruise ship companies periodically traverses the proposed withdrawal area. The only train that currently stops at Spencer Glacier, and drops off outfitter/guide clients, is the Glacier Discovery Train. As of 2005, the total number of riders was less than 50 people a day. Table 1 shows the currently existing passenger train service through the proposed withdrawal area for both summer and winter, as well as the Whistle Stop train service.

Independent of railroad access, summer recreationists have the ability to access the Placer River Valley by boat; airplane, or helicopter; and by foot through cross-country travel. Non-guided boat use on the Placer River has never been quantified, but use is likely low (probably less than five boats per day).

Five outfitters and guides operate in the Spencer Glacier area during the summer, providing services including rafting, canoeing, hiking, fishing, flightseeing, and motorized boat-tours.

Winter Use. As with many areas of Alaska, recreation use in the proposed withdrawal area increases in the winter due to snowpack and frozen waterways. There is evidence of snowmobile and backcountry ski use throughout the entire Placer River drainage from November through April. Both

independent and guided snowmobile use has been documented in the Placer Valley and throughout the numerous drainages and glaciers in the valley.

There are six outfitters and guides who operate in the Spencer Glacier area during the winter, providing services including snowmobile tours, skiing, heli-skiing, and flightseeing

3.2 Water Utilization, 43 CFR §2310.3-2(b)(2)

The proposed withdrawal area is at the Spencer Glacier outwash plain in the Placer River Valley. The Placer River Valley is a broad, U-shaped, glacier-carved valley, bordered by the Kenai Mountains. The Valley is generally wet and marshy, whereas the Spencer Glacier outwash plain is well-drained and generally dry. Spencer Glacier once occupied Placer River Valley; it is receding. The Placer River flows into Spencer Lake from the south and exits, along with drainage from Spencer Glacier, at the northeast end of the lake into Placer River Valley. Although drainage from the glacier has meandered across its outwash plain in the past, the lake currently captures the glacial melt water, which then flows out into Placer River as a single channel.

The outwash plain is typical kame and kettle topography. The kames are irregularly shaped mounds composed of sorted or stratified sand and gravel deposited by receding glacial ice. A kettle is a fluvio-glacial landform resulting from blocks of ice calving from the front of the receding glacier and becoming partially to wholly buried by glacial outwash. When the calved ice melts a depression is left behind. There are four relatively large kettle ponds at Spencer Glacier and several smaller ones. The water level in the kettle ponds roughly corresponds to the groundwater table of the Placer River and Spencer Lake. Most of the kettles are dry for much of the year.

3.3 Heritage/Cultural Resources, 43 CFR §2310.3-2(b)(3)(i)

The following material was taken from pages 12 and 13 of the Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*:

Surveys identified known heritage sites within the area of potential effect (APE), including historical remains associated with the Alaska Railroad. Evidence of prehistoric remains is not expected within the project area, primarily due to recent deglaciation of the terrain. Evidence of historic use of the area is confined to the twentieth century.

The area is attributed ethnographically to the Athabaskan speaking Tanaina. While resources harvested by the Tanaina are located within the project area, including moose and bear, as well as the cambium (gum) of spruce and the bark of birch and cottonwood (Mattson et al. 1979), no evidence of prehistoric sites was discovered.

The Tanaina utilized areas such as this one temporarily to hunt, building small brush/branch structures (Mattson et al. 1979). Today, there may only be subsurface evidence of any hunting forays they may have undertaken in the area. Due to recent deglaciation, evidence of their use of the area would likely be limited to the mountain slopes that form the east boundary of the project area.

Placer mining became a significant enterprise in the Kenai Peninsula in the late 1800s. However, counter to what its name might suggest, little mining took place

along the Placer River (Sleem 1910). Mining was limited to prospecting of fine-grained gold above Spencer Glacier and, more recently, suction dredging (Jansons et al. 1984). Historically, there were no “diggings” or lode mines. Today, the P.R. Mine operates within the project area, as evidenced by their large rock quarry. Other evidence of modern mining activity was noted (ref. 9. b.). Historic placer prospects would likely be located within the floodplain of the Placer River or other stream courses draining from the mountain.

The Alaska Railroad has left an indelible mark on the landscape within the project area. The railroad bisects the project area, and both the associated Spencer Siding (ca. 1915) and levee are within the project area. Gilliam (1998) noted that the levee was constructed in 1917 to prevent inundation of the railroad. Railroad-associated remains are expected to be located along the rail corridor, and within and in the vicinity of the siding and levee. Specifically, a 1919 water supply station once stood at milepost 56....

Eighteen cultural features are located within the project APE especially in close proximity to the railroad. Features found further west towards Placer River are flotsam in nature and reflect the past condition of the project area. Much of this project area has been subject to numerous flood events.

The Iditarod National Historic Trail generally follows the route of the railroad and bisects the proposed withdrawal area.

3.4 Roadless/Wilderness Characteristics, 43 CFR §2310.3-2(b)(3)(ii)

The Forest Service analyzed the Spencer Glacier area including the proposed withdrawal area’s roadless and wilderness characteristics in its May 2002, *Final Environmental Impact Statement, Chugach National Forest, Land Management Plan Revision and Record of Decision*, Appendix C. The proposed withdrawal area falls within the Forest Service’s “Johnson Pass” roadless area.

However, “... [A]rea[s] within ¼ mile of established roads and the railroad [were] excluded for the roadless area analysis,” page C-29. The railroad bisects the proposed withdrawal area. The proposed withdrawal area also includes a limited road system that facilitated historic mineral material development.

Hence, portions of the proposed withdrawal area fall within an inventoried roadless area, the Johnson Pass roadless area, and those portions within ¼ mile of the railroad and localized roads do not.

The above notwithstanding, the proposed withdrawal area’s wilderness characteristics are diminished by the presence of the Alaska Railroad’s rail bed, historic roads that facilitated prior mineral material development and the recent and relatively permanent improvements introduced by the Forest Service.

No lands on the Kenai Peninsula, which includes the proposed withdrawal area, were recommended for addition to the National Wilderness Preservation System by the Forest Service, page 15, *Record of Decision, Final Environmental Impact Statement, Revised Land and Resource Management Plan*, May 2002.

3.5 Minerals, 43 CFR §2310.3-2(b)(3)(iii)

The following excerpt was taken from the Forest Service's July 2004 *Upper Turnagain Landscape Assessment*, at page 17:

Natural aggregates (sand, gravel, and crushed stone) are abundant within the UTLA [Upper Turnagain Landscape Assessment] area and have been locally mined commercially since Alaska's early mining years. These materials were used primarily as fill for railroad grades, roads, highways, and fill for structural development (houses and building) sites.

Within the UTLA area, natural aggregates have been produced from valley bottoms and rock outcrops adjacent to railroad grades or highways. The valley bottoms consist of deep alluvial deposits comprised of silts, sand, gravel, and rock on a relatively flat plain. Commercial sand and gravel deposits suitable for use as road fill and railroad bed fill are abundant throughout (Huecker 1979 and Davidson 1989). The valleys were glacially formed and still feature glaciers along their sideslopes and at the head of the valleys. Aggregate has been produced adjacent to existing transportation routes. Rock outcrops with designed rail or road cuts utilize the rock as fill for projects. Large cuts and fills can be observed along the Seward Highway and Alaska Railroad grade.

Primary extraction sites have included Glacier Creek (Girdwood), Portage Valley, Spencer Glacier and pits adjacent to the Seward Highway such as at Peterson Creek. Currently, in Girdwood, waste rock produced from the Girdwood Mine is still available for commercial purposes. Extraction from Glacier Creek ceased in the 1980's. There are no active pits along the Seward Highway within the UTLA area at this time. The highway pits have not been utilized to any extent in more than 15 years. The Whittier access project utilized the rock face adjacent to Portage Lake as fill in the late 1990's. The Spencer Glacier site has an active mine that the Alaska Railroad periodically uses and an adjacent rock quarry that produced until 1997 ... Portage Valley has one open pit near the Williwaw Campground. It is anticipated that this pit will produce for 5 years or more.

The Forest Service manages the Portage Valley and Spencer pit area. Between 1991 and 1997 the Spencer pit produced approximately 375,000 tons of rock, sand and gravel. Portage Valley has several pits and produced approximately 1,000,000 tons of material over the last 20 years.

The following excerpt was taken from the Forest Service's January 2009 *Spencer Integrated Weed Management Environmental Assessment*, pages 11 and 12:

This area has been a developed quarry since the early 1900's, leaving a setting that is not pristine in character. Mineral materials consisting of rock (stone) and gravel have been mined at Spencer for over a century. The railroad extracted gravel in the early 1900's and built a rock levee in 1917 to divert water from their gravel pit. Past mining activity is clearly visible in the Spencer area. Exposed rock faces, gravel piles, berms, and access roads are present between the railroad tracks and Spencer

Lake. Many areas were leveled and several pits are present. Native shrubs and trees have reestablished in many disturbed areas.



Figure 9. Gravel pit under permit to the Alaska Railroad

The Forest Service prepared a Mineral Resource Analysis in accordance with the terms of 43 CFR 2310.3-2(b)(3)(iii). See Appendix A for discussions of general geology, known mineral deposits, past and present mineral production, mining claims, mineral leases, and mineral potential within the proposed withdrawal area.

With regard to “demand” for mineral materials, the Forest Service’s *Draft Environmental Impact Statement, Spencer Mineral Materials Project* provides the following at page 9: “Response to a Forest Service solicitation of interest indicates there is demand for gravel and quarry rock from this location.”



Figure 10. Previously disturbed gravel extraction area

There are four placer mining claims wholly within the proposed withdrawal area, (Figure 5). There are fragments of four placer mining claims that overlap the proposed withdrawal area. The four placer claims wholly within the proposed withdrawal area have not been subjected to validity examination; the four claims that overlap the proposed withdrawal area have and have been found valid. There has been no locatable mineral production from any of the claims, although the claimants continue to file annual fees and occasionally submit a plan of operations.

3.6 Threatened and endangered species, 43 CFR §2310.3-2(b)(3)(iv)

There are no threatened or endangered species that habituate the proposed withdrawal area, see the wildlife section of the *Draft Environmental Impact Statement, Spencer Mineral Materials Project* beginning on page 88 for a discussion of Threatened and Endangered Species and a general discussion of wildlife within the proposed withdrawal area.

3.7 Economics, 43 CFR §2310.3-2(b)(3)(v)

The Spencer Whistle Stop was established in 2007 by the Alaska Railroad in partnership with the Forest Service with an overall investment of \$775,000. Recreational infrastructure investment within the proposed withdrawal area is approximately \$520,000. The use of these facilities has increased considerably in the 2 years since their construction. Neither the Forest Service nor the railroad is able to yet identify the level of recreational use. There are guided tours occurring at the Glacier which are facilitated by the new Whistle Stop. It is anticipated that recreational use will increase. It is not possible to discern a reasonable economic value for the recreational use occurring within the proposed withdrawal area at this time. See the *Final Environmental Impact Statement*,

Whistle Stop Project, dated May, 2006, pages 3-3 through 3-6 for further discussion of recreational economic considerations. The current Alaska Railroad fare from Anchorage to Spencer Glacier is \$103 round trip. Forest Service campground rates range from \$35 to \$100 per night.

For the purposes of this analysis, the value of gold found in one ton of material may be worth \$1.81 based on the analysis done by Administrative Law Judge Harvey S. Sweitzer in *United States v. J. Dennis Stacey and Pelham L. Jackson*, AA-81885 (March 29, 2004). The claims analyzed by Judge Sweitzer are those found within the lands withdrawn under Public Land Order 7393 immediately south of the proposed withdrawal area, including the four claims that overlap the proposed withdrawal area. The remaining claims that are wholly within the proposed withdrawal area have not undergone validity examination. There are no claims in the west half of the proposed withdrawal area (Figure 5). **Note:** Judge Sweitzer's analysis was based on 2004's commodity pricing for gold. Further Judge Sweitzer postulated that the production cost of one ton of material as placer material was \$1.63 with a resulting yield of 18¢ per ton.

The following material was taken from the Economics Section of the Forest Service's *Draft Environmental Impact Statement, Spencer Mineral Materials Project* beginning at page 106.

During the public scoping process ... concern was expressed about the economic feasibility of the project (Issue 7). According to FSM 1970.62, the analysis should implement "techniques to develop the most efficient combination of activities for each decision unit within each alternative." Given the information provided, financial efficiency measures are calculated in this analysis to provide a means of comparing the economic feasibility across alternatives.

Direct and Indirect Effects

The alternatives are analyzed and compared using the Quicksilver program to estimate the benefit-cost ratios and the net present values (NPVs) of project alternatives for both the operator and the Forest Service. Quicksilver is a financial analysis tool developed by the Forest Service to generate measures of financial efficiency. This analysis is based on the assumptions of the likely development scenarios displayed in Table 1. The costs and benefits associated with the development of the Spencer Mineral Materials site are displayed in Table 15. Both the quantities used in likely development scenarios and the values used for the benefits and costs were obtained from local sources, in part, from information provided by potential operators (actual sources are included in the project record). The data utilized in this analysis represents the best available estimate of the quantities, costs, and benefits associated with each development scenario.

Table 15. Table of values used for costs and benefits associated with the Spencer Mineral Materials project.

Benefit/Cost	Forest Service	Operator
Value of aggregate	\$0.321 per ton (sale price)	\$9.20 per ton (sale price)
Value of quarry rock	\$0.512 per ton (sale price)	\$83.30 per ton (sale price)
Permit administration	-\$22,000 per year	N/A
Clearing of 25-acre site	N/A	-\$1,600
Construction of rail spur	N/A	-\$200 per linear foot
Mining and loading of aggregate	N/A	-\$1.00 per ton
Mining and loading of quarry rock	N/A	-\$1.53 per ton
Rail transport of materials	N/A	-\$3.75 per ton
Truck transport of materials	N/A	-\$2.00 per ton
Unloading of trains	N/A	-\$0.60 per ton
Stockpiling and storage	N/A	-\$0.50 per ton
Loading and scaling	N/A	-\$0.80
Reclamation of 25-acre site	N/A	-\$3,400

The single largest cost affecting the economic feasibility of the project is the cost of constructing one or more rail spurs. If the rail spurs could be used for other purposes, then some of this cost might be further offset. However, for this analysis, development costs are assumed to be incurred solely by the operator and do not account for potential offsets occurring from multiple-use scenarios. The single largest component affecting the economic feasibility of the project is the sale price of the materials. Fluctuations in market conditions could affect the economic feasibility of mine operations by changing the expected returns to the operator and Forest Service. Values of materials reported by local sources are assumed to accurately represent current market conditions. Table 16 reports NPVs and benefit-cost ratios across alternatives for both the Forest Service and the operator. According to OMB Circular A-94, NPV is the standard criterion for deciding whether a project is economically justifiable. NPV is a way of comparing all monetarily valued costs and benefits, and is calculated by subtracting the discounted sum of total costs from the discounted sum of total benefits. Economic principles associated with the time value of money suggest that money now is worth more than money in the future. Thus, benefits and costs occurring in the future must be discounted back to represent their current value. A federally prescribed discount rate of 4 percent is used in this analysis (FSM 1971.21). A positive NPV means that the discounted sum of benefits is greater than the discounted sum of costs. Inflation is also a variable that can affect the NPVs associated with each alternative. However, due to the uncertainty of future inflation, OMB Circular A-94 recommends the avoidance of making assumptions about the inflation rate whenever possible. Thus, for the purposes of this project, inflation will be left at zero.

[Emphasis added.]

Table 16. Table of comparative economic measures for various alternatives for the Spencer Mineral Materials project [Alt A is the Forest Service's Proposed Action; Alt E is the No Action alternative.]

Economic Measure	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Benefit-Cost ratio – Forest Service	3.95	7.46	1.63	7.46	N/A
Benefit-Cost ratio – Operator	2.03	1.76	2.24	1.74	N/A
Net Present Value – Forest Service	\$751,714	\$1,643,964	\$159,437	\$1,643,964	N/A
Net Present Value - Operator	\$22,380,670	\$30,128,721	\$10,808,758	\$29,737,966	N/A
Benefit-Cost Ratio – Both Parties	2.05	1.80	2.23	1.78	N/A
Net Present Value – Both Parties	\$23,132,384	\$31,772,686	\$10,968,196	\$31,381,930	N/A

The relationship between benefits and costs is further assessed with the computation of benefit-cost ratios for the Forest Service and the Operator (Table 16). The benefit-cost ratio is simply the discounted sum of benefits divided by the discounted sum of costs. A ratio greater than one suggests that the benefits associated with a project are greater than the costs. One caveat of benefit-cost ratios is that they do not allow the analyst to assess the aggregate value of benefits associated with an alternative. The alternative with the highest benefit-cost ratio has the highest value of benefits compared to the associated costs, but does not necessarily have the greatest value of benefits at the aggregate level. Benefit-cost ratios are often utilized as a decision criterion in situations when a budget constraint is present (i.e., choose the alternative with the highest ratio up to a certain level of total costs). NPV provides a better measure of the overall level of benefits and costs as it reports the difference between benefits and costs at the aggregate level, rather than being a ratio of the two.

The figures provided in Table 16 serve as measures of the financial efficiency of the proposed alternatives. Specific welfare criteria may affect the determination of the preferred alternative. The decision maker should assess the results of each alternative separately and take into account any secondary biological and social impacts associated with the alternatives. The benefit-cost ratios and NPVs presented above are based solely on the financial information provided by local sources. The data provided does not allow for the quantitative valuing of secondary impacts. Thus, the financial measures provided here should be balanced with a qualitative assessment of any expected biological and social impacts associated with the alternatives.

3.8 Floodplains and Wetlands, 43 CFR §2310.3-2(b)(4)

The proposed withdrawal area lies within the Placer River watershed (approximately 80,700 acres). The lower Placer River watershed receives about 60 inches of annual precipitation, with up to 140 inches falling annually in the high-elevation glaciated areas. The average March 1 snowpack in the valley floor is about 40 to 75 inches. About 37 percent of this glacially sculpted watershed is currently covered by the Spencer Glacier. The glacier is receding, and Spencer Lake has formed at the terminus of Spencer Glacier within the last 55 years.

The Placer River is a large glacial river draining the Spencer Glacier and Spencer Lake. This glacial system is dynamic, with high sediment loads and braided channels. Glacial outwash deposits exist to the west and northwest of Spencer Lake and in the lower Placer River Valley floor. The outlet of Spencer Lake has remained relatively static, as the channel is incised into an old terminal moraine.

Numerous high gradient contained streams exist in the headwaters and sideslopes of the watershed, and numerous low gradient palustrine²¹ channels exist in the flats of the lower Placer River Valley.

Stream flows in the Placer River are controlled by glacial melting, with peak flows occurring between late June and early August and a potential for high-magnitude floods. Non-glacial streams, draining smaller basins and hill slopes in the Spencer area, generally peak in June, with less severe floods. All streams in the area can experience high-magnitude, short-duration floods during fall rains. The Placer River is highly turbid from glacial sources, with high sediment loads that increase during times of high flows. Human uses have had little effect on water quality in this watershed, although the motorized railroad corridor presents a risk of water quality impairment.

There are about 84 acres of wetlands within the project area, of which 40.5 acres are Palustrine and 43.6 acres Riverine²² (Figure 11). Palustrine wetlands are widespread throughout the valley floor of the Placer River Valley. Small palustrine wetlands are also found scattered in the uplands and upper valleys. Floodplains are also present in the Placer River Valley floor as well as the area west of Spencer Lake and along the lake outlet. These areas experience frequent flooding.

²¹ The Palustrine System ... includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ‰. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2 m at low water; and (4) salinity due to ocean-derived salts less than 0.5 ‰. Source: U.S. Department of the Interior, U.S. Geological Survey, *Classification of Wetlands and Deepwater Habitats of the United States*.

²² The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts in excess of 0.5 ‰. A channel is "an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water" (Langbein and Iseri 1960:5). Source: U.S. Department of the Interior, U.S. Geological Survey, *Classification of Wetlands and Deepwater Habitats of the United States*.

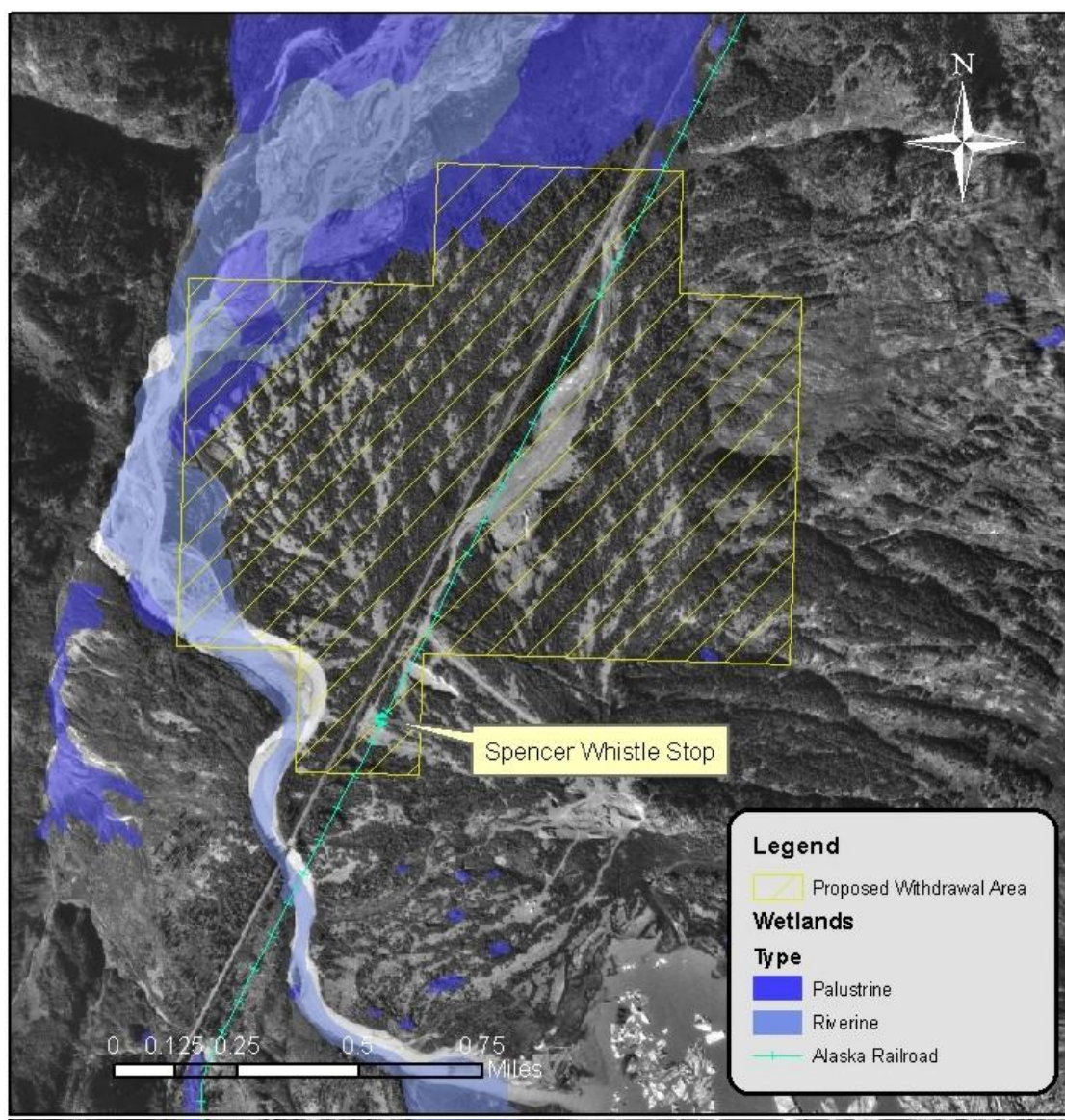


Figure 11. Proposed withdrawal area's wetlands

3.9 Subsistence

The lands encompassed by the proposed withdrawal are public lands within the meaning of Section 102(3) of the Alaska National Interest Lands Conservation Act and the continuation of the opportunity for subsistence uses of resources on those lands fall within the scope of Title VIII of the Act.²³

²³ Public Law 96-487, 94 Stat. 2371, December 2, 1980

4. Environmental Consequences

There are no direct environmental effects associated with the administrative act of withdrawing the lands with the exception of precluding locatable mineral development on unencumbered lands for the term of the withdrawal. There may however be indirect or cumulative effects associated with the administrative act of withdrawing the lands as it would facilitate the Forest Service's engagement in competitive mineral material sales and it may provide an impetus for further recreational infrastructure development.

4.1 Users and uses, 43 CFR §2310.3-2(b)(1)

Title 43 of the Code of Federal Regulations Section 2310.3-2(b)(1) requires:

1. identification of the present users of the lands;
2. an explanation of how they will be affected by the proposed use;
3. an analysis of the manner in which existing and potential resource uses are incompatible or conflict with the proposed use of the lands and resources that would be affected by the proposed withdrawal; and
4. a discussions of the provisions that are to be made for, and an economic analysis of, the continuation, alteration or termination of existing uses.

There are three different user groups: recreation users, mineral material developers, and locatable mineral developers. The contemplated uses for the proposed withdrawal area are competitive mineral material sales and recreation. Both uses are considered within the context of valid existing rights.

Withdrawal of the lands will preclude entrymen²⁴ from locating mining claims under the Federal Mining Law of 1872 within the proposed withdrawal area. Valid existing rights of prior entrymen will not be affected. Recreational use is expected to increase in the Spencer Glacier area and the absence of new mining claims may allow for further expansion of recreational infrastructure particularly after mineral material extraction sites are reclaimed.²⁵ Entities awarded competitive bid contracts for mineral material development will enjoy a contract position with the Forest Service within portions of the proposed withdrawal area without regard for the potential of third party interference by mining claimants.

Mineral Material Development v. Recreational Use. The Forest Service issued a Record of Decision promoting recreational use of the proposed withdrawal area in May, 2006. The *Whistle Stop Final Environmental Impact Statement* analyzed the impacts of recreation use in the Spencer Glacier area on mineral material disposal activities, pages 3-40 to 3-42.

Mineral material development will degrade the recreational experience at Spencer Glacier absent appropriate management of view sheds, noise, dust, the presence of heavy equipment, proximity, hours of operation, season of operation, etc. The Forest Service is in the process of developing the *Spencer Mineral Materials Project Draft Environmental Impact Statement* and is addressing the

²⁴ Entryman – One who enters upon public land with intent to secure an allotment under homestead, mining, or other laws. *Webster 3d.*

²⁵ The Forest Service's reclamation plan calls for surface reclamation in 15 to 25 acre increments, *Spencer Mineral Materials Project Draft Environmental Impact Statement*, pages 44 - 48.

affect of mineral material development on the recreational experience, *Spencer Mineral Materials Project Draft Environmental Impact Statement – Recreation*, pages 69 – 77. The abstract of the current draft of the environmental impact statement provides:

Alternative A [the proposed action] would permit mineral material extraction on a total of 530 acres located immediately *adjacent to* the Alaska Railroad and *the Spencer Glacier Whistle Stop developed recreation area*. Alternative B would allow gravel extraction from about 200 acres on the west side of the Alaska Railroad *furthest from recreation sites to minimize noise and visual intrusions*, as well as, to avoid existing placer claims [and the developed recreation complex]. Alternative C would restrict gravel operations to about 160 acres to minimize visual impacts from recreational developments and viewing locations located at higher elevations. Alternative C would also *limit gravel operations to 3-4 days per week to minimize noise impacts to recreationists*. Alternative D would allow gravel operations on 360 acres with modifications to the proposed operating season, operating hours, and methods of extraction to improve operational feasibility. All action alternatives would allow mining of quarry rock from 30 acres near Spencer Lake.

[Spencer Mineral Materials Project Draft Environmental
Impact Statement, Abstract. *Emphasis added.*]

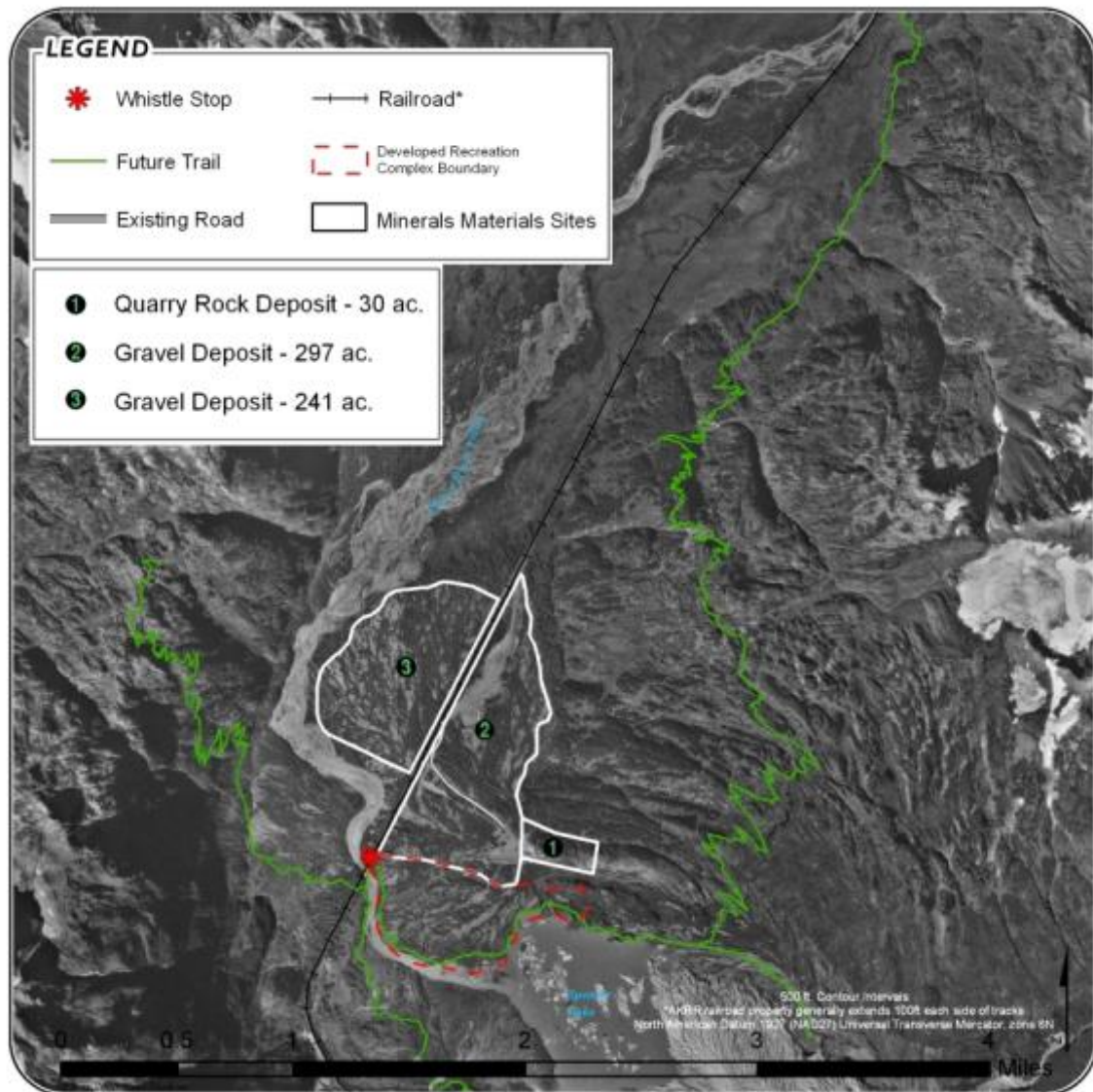


Figure 12. Map of recreation infrastructure at Spencer Glacier in relation to mineral material extraction sites.

The Summary of the *Spencer Mineral Materials Project Draft Environmental Impact Statement* provides:

After reviewing the proposed action, the alternatives, the environmental analysis, and considering public comment, the Forest Supervisor will reach a decision that is in accordance with the purpose and need for this project. The decision will include, but not be limited to:

- Whether to permit production of mineral materials from the Spencer site.
- What will be the size and location of the area(s) permitted for mineral materials production.
- What types of equipment and facilities will be allowed in the permitted area to support mineral materials operations.

- What methods of extraction will be allowed and/or prohibited.
- *What constraints will apply to mineral materials operations to provide a high quality recreational experience at the Spencer Glacier Whistle Stop.*

[Spencer Mineral Materials Project Draft Environmental Impact Statement, page iv. *Emphasis added.*]

All of the alternatives discussed in the Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement* recognize the need for appropriate management to maintain a quality recreational experience at Spencer Glacier. The *Whistle Stop Final Environmental Impact Statement* indicates that mineral material sales contracts would consider mitigation measures to reduce impacts to recreation and provides that "The site(s) chosen for mineral material extraction would be situated and operated so as not to conflict with high quality recreation experience at the Spencer Glacier Whistle Stop," page 10.

Mineral Material Development v. Locatable Mineral Development. Title 36 of the Code of Federal Regulations Section 228.41(b)(3) provides the following:

(b) Disposal of mineral materials from the following National Forest lands is subject to certain restrictions as described below:

3) *Unpatented mining claims. Provided that claimants are given prior notice and it has been determined that removal will neither endanger nor materially interfere with prospecting, mining, or processing operations or uses reasonably incident thereto on the claims,....*

[Emphasis added.]

Under Alternative A of the *Spencer Mineral Materials Project Draft Environmental Impact Statement* a substantial portion of locatable mining claims would be subjected to mineral material extraction. To accommodate mineral material extraction from the placer mining claims the draft environmental impact statement provides "Alternative A would not materially interfere with placer mining operations conducted under an approved plan of operations. Every effort would be made to coordinate gravel operations with placer claim operations in areas of overlap," *Spencer Mineral Materials Project Draft Environmental Impact Statement*, page 19.

There are no known locatable mining claims that would be affected by the *Spencer Mineral Materials Project Draft Environmental Impact Statement's* Alternative B.

Alternatives C and D of the *Spencer Mineral Materials Project Draft Environmental Impact Statement* provide: "This alternative would exclude the existing placer claims from the permit area for gravel extraction." However, the Forest Service was unaware of the four mining claims wholly within the proposed withdrawal area and both alternatives promote mineral material extraction from the area of the four claims. It is assumed that the Forest Service would employ approved plans of operation and coordination to effectively mine and market mineral material within the mining claims as provided for under Alternative A.

Recreational use v. Locatable Mineral Development. The following material was taken directly from the May, 2006 *Record of Decision* associated with the Forest Service' *Whistle Stop Final Environmental Impact Statement*.

2. Interaction between Mining and Recreation

I received comments from the public that related to the interaction between mining and recreation in the project area and the potential resulting impact to mining operations due to recreation activity, particularly in the Spencer area. Therefore, related to this issue, an important aspect of public comment I considered was to minimize the impact to the existing 400 acres of mining claims in the Spencer area. In my decision, I have included a number of measures that will greatly reduce the potential impact to mining claims in the Spencer area and simultaneously meet project objectives.

In my decision, I greatly reduced the scope and scale of recreation infrastructure that would be located within the mining claim area. The Preferred Alternative in the DEIS included a portion of the trail system, three group campsites, a vault toilet, a viewing platform and an agency information center located within the mining claim area. The footprint of this infrastructure would have directly impacted approximately 2.04 acres of land within the existing mining claims. In the Selected Alternative, I have scaled back the infrastructure located on the mining claims. I have removed two group campsites, the vault toilet, viewing platform and agency information center; therefore, the infrastructure remaining on existing mining claims will directly impact only 1.32 acres. Therefore, my decision addresses concerns with recreation development more effectively than all other alternatives (except Alternative 1), as these other alternatives all include substantial infrastructure on the existing mining claims. Additionally, multiple responses were received to a solicitation of interest issued by the Forest Service for potential removal of rock, sand and gravel in the Spencer area. My decision ensures that recreation activity will be located away from any potential mining operations that may occur.

I realize that my decision still approves a small number of recreation facilities on existing mining claims in the Spencer area. Furthermore, I recognize that Alternative 1 does not include development within the mining claim area at Spencer, but I am comfortable with my decision for the following reasons:

- a. The footprint of the recreation infrastructure in the Spencer area is extremely small (see map in Appendix A). Furthermore, we have decided to locate this small footprint in a localized corner of the mining claims, aiming to minimize the impact to any potential future mining activity.
- b. The recreation facilities that I have decided to develop on top of the mining claims is of a very low investment. Facilities with a high investment will be located off of the existing mining claims, including a two-hole vault toilet and native-rock viewing platform; additional facilities that will be located off the mining claims includes the seasonal agency information yurt.

c. Based on testing that has been undertaken by Chugach National Forest minerals specialists, we have found that there is a low potential for development of locatable minerals in this area.

d. Recreation and minerals development are not incompatible. We can allow the two uses to co-exist with either movement of recreation facilities or staging of minerals development. Finally, not only are recreation and minerals development not incompatible with project implementation, but they are not incompatible legally. Mining claims validated subsequent to Act of 1955, such as those in the project area, do not carry the exclusive right to the surface. Lands containing such claims are subject to the rights of the United States to manage and dispose of the vegetative resources, to manage other resources except locatable minerals, and to the right of the United States, its permittees and licensees, to use so much of the surface area necessary for such purposes and for access to adjacent lands (30 U.S.C. 612, UFSM 2813.13bU).

I am comfortable with the potential effects of locating a minimal amount of recreation infrastructure on the mining claims at Spencer. I believe it is important to balance a number of significant issues with my decision and I feel it is essential to locate the group campsite in its identified location due to the superior views it provides, its responsiveness to customer service through ease of access, and the ability to reach the site by vehicle to conduct maintenance. I recognize that there is still the potential for interactions between mining and recreation in this area, but feel that the interactions have a minimal chance of occurring, and if necessary, the interactions can be properly mitigated through informational signage at the Spencer Whistle Stop location.

The Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*, is premised upon the Secretary of Interior's withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. It is not known whether the Forest Service would pursue mineral material sales at Spencer Glacier without the withdrawal. No mineral material sales have occurred in the area since the May 28, 1999 effective date of Public Land Order 7393.

The Forest Service may or may not engage in mineral material sales at Spencer Glacier absent the withdrawal. Should the Forest Service engage in such sales, the failure to withdraw the lands may impede the Forest Service's ability to engage in competitive mineral material sales particularly where the unencumbered lands become encumbered by mining claims. Potential bidders may refrain from engaging in competitive bidding for fear of incurring third party complaints and litigation. Additionally, the capital investment in recreational infrastructure within the proposed withdrawal area may be jeopardized by location and entry under the Federal Mining Law of 1872. Further, demand for mineral material may result in the unnecessary development of new and alternate mineral material sites elsewhere followed by the environmental degradation associated with such new development.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad's and the Forest Service's recent opening of the country to recreational activity. The absence of a withdrawal may or may not result in an increase in the intensity of use depending on the Forest Service's willingness to proceed with mineral material sales without the withdrawal and/or the level of locatable mineral development. Locatable mineral development, with

or without the withdrawal, has the potential of adversely affecting the quality of the recreational experience at Spencer Glacier and is an appropriate issue for consideration in analyzing a mining plan of operation.

4.2 Water Utilization, 43 CFR §2310.3-2(b)(2)

The administrative act of withdrawing the land will have no direct impact on water or water utilization within the proposed withdrawal area.

Drinking water will be obtained from a water well(s) drilled in close proximity to recreational infrastructure. Mineral material and locatable mineral development operations commonly utilize water resources. Mineral material development would have effects on water resources and hydrologic processes in the Placer River Watershed. However, the outwash plain of the Spencer Glacier is a naturally dynamic area, with natural changes occurring as the Placer River adjusts and glacial recession continues.

The following material was taken from the Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*, page 80:

Potential water quality effects of the gravel extraction operations ... include possible increases in turbidity of surface water. Surface water runoff is limited by the porous nature of the glacial outwash gravels covering this area, although large storm events can produce runoff from the small drainages on the eastern valley side ... Any impacts of these effects on the Placer River would be low because of the naturally high glacial turbidity present in the river. The potential risk of water quality impacts ... increases with the size of the gravel extraction operation and the proximity of the operations to the Placer River or other streams. Any increases in turbidity are not likely to violate Alaska State water quality standards (Alaska Department of Environmental Conservation 2006).

The quantity of surface water runoff could increase as a result of decreased uptake of water from vegetation in the mineral extraction area and increased groundwater flow rates from groundwater ponds. These effects could cause a very small increase in water quantity in the Placer River, and a moderate increase in the water quantity in the small stream flowing north out of the eastern gravel extraction area. Flow regime changes in this stream could have short-term effects in terms of channel stability.

The proposed withdrawal area was added to the Chugach National Forest by Presidential Proclamation 852, February 23, 1909, of President Theodore Roosevelt under the authority of the Organic Administration Act of 1897. The Organic Administration Act of 1897 provides: "That no forest reservation shall be established, except to improve or protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States...." While the Forest Service enjoys an implied-reservation-of water, *Winters v. United States*, 207 U.S. 564 (1908), the United States Supreme Court has interpreted the above clause of the Organic Administration Act of 1897 to limit the reservation to two purposes – "[t]o conserve water flows, and to furnish a

continuous supply of timber.” Under the Court’s interpretation of the Act, National Forests are not reserved for aesthetic, environmental, recreational, or wildlife preservation purposes, *United States v. New Mexico*, 438 U.S. 696 (1978).

As pointed out by the Environmental Protection Agency in its July 7, 2008 letter to the Forest Service regarding the *Spencer Mineral Materials Project Draft Environmental Impact Statement*, mineral material operations typically have some requirement for water usage. Further, the Forest Service intends to drill water wells as sources of drinking water for recreational users. Although in the process, the Forest Service has not acquired rights to use water in conformity with the applicable Alaska state laws and procedures relating to the control, appropriation, use and distribution of water. The withdrawal application does not request a water reservation. The Forest Service has provided proof of notification of the Alaska department of water resources of a land use that will require the use of water, Appendix B.

The Forest Service’s *Spencer Mineral Materials Project Draft Environmental Impact Statement*, is premised upon the Secretary of Interior’s withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. It is not known whether the Forest Service would pursue mineral material sales at Spencer Glacier without the withdrawal. No mineral material sales have occurred in the area since the May 28, 1999 effective date of Public Land Order 7393. That aside, should the lands not be withdrawn and should the Forest Service pursue mineral material sales at the Glacier, operations will require the use of water and water will be degraded largely through increases in turbidity and sedimentation. In the absence of such sales water utilization associated with mineral material development will not occur and water degradation through increases in turbidity and sedimentation associated with such development will not occur.

Failure to withdraw the lands will not affect the Forest Service’s need to appropriate water rights from the State of Alaska for recreation.

Locatable mineral development will require water use whether the land is withdrawn or not and is an issue for appropriate consideration in analyzing a mining plan of operation.

4.3 Heritage/Cultural Resources, 43 CFR §2310.3-2(b)(3)(i)

Neither the administrative act of withdrawing the lands or failure to do so will have a direct effect on heritage or cultural resources in the area. Indirectly, withdrawal of the lands will increase the risk of harm to heritage and cultural resources due to reasonably foreseeable increases in activity, particularly ground disturbing activity associated with mineral material development and sales. Conversely, failure to withdraw the lands may result in maintenance of the status quo depending on the Forest Service’ willingness to pursue mineral material development without the withdrawal. Under both alternatives there may be some risk of harm to heritage and cultural resources from locatable mineral activity.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad’s and the Forest Service’s recent opening of the country to recreational activity. The absence of a withdrawal may or may not result in an increase in the rate or intensity of recreational use depending on the Forest Service’s willingness to proceed with mineral material sales

without the withdrawal and/or the level of locatable mineral development. Increases in recreational activity at Spencer Glacier will result in increased risk to heritage and cultural resources.

Locatable mineral development has the potential of disturbing heritage/cultural resources whether the land is withdrawn or not and is an issue for appropriate consideration in analyzing a mining plan of operations.

The following material was taken from pages 3-38 through 3-40 of the Forest Service's *Whistle Stop Final Environmental Impact Statement*:

50% of the project area has been surveyed and inventoried. As a result, the number and extent of heritage resources in the project area is unknown at this time. A programmatic agreement has been developed between the Chugach National Forest and the Alaska State Historic Preservation Officer (USDA, 2006). When the field surveys are completed in 2006, appropriate identification, evaluation, mitigation and monitoring will adhere to the programmatic agreement to ensure that any effects are mitigated or avoided where possible. A detailed specialist report will be placed in the project record upon completion of the field surveys.

Heritage resources will continue to deteriorate ... there is the potential for looting and vandalism with the increase of visitors to these sites. Any effects will be analyzed in accordance with the *Programmatic Agreement between the Chugach National Forest and the Alaska State Historic Preservation Officer Regarding Implementation of the Whistle Stop Project and Associated Historic Properties* (2006) ... The proposed developments within the Spencer Lake area will have little effect to heritage resources. The cultural resource in the area can be avoided during project implementation ... With the Whistle Stop project, there is a potential for numerous interpretive and educational opportunities in a region that has had little previous interpretation. There could be a benefit to heritage resources or a reduction of the effects through education, interpretation and monitoring of cultural resources.

The following material was taken from page 78 of the Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*:

Both previously recorded and newly recorded archaeological sites will be identified to the project administrator for avoidance by project activities using the standard resource protection measures. Any proposed project boundary changes will be subject to a case-by-case review for Section 106 compliance needs and documentation. There is also a possibility that cultural resources may be present and were not located during survey due to dense vegetation, deadfall, and/or topographic constraints. In the event that cultural remains are discovered during the course of the project, they would remain undisturbed and must be reported immediately to the District and/or Forest Archaeologist.

4.4 Roadless/Wilderness Characteristics, 43 CFR §2310.3-2(b)(3)(ii)

Neither the administrative act of withdrawing the lands or failure to do so will have a direct effect on the roadless/wilderness characteristics of the area. The proposed use of mineral material development will further diminish the withdrawal area's wilderness characteristics as will additional recreational infrastructure development and possible locatable mineral development. However, exclusion of the ¼ mile area adjacent to the railroad's rail bed and roads eliminates a substantial portion of the proposed withdrawal area from roadless consideration.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad's and the Forest Service's recent opening of the country to recreational activity. The absence of a withdrawal may or may not result in an increase in the intensity of use depending on the Forest Service's willingness to proceed with mineral material sales without the withdrawal and/or the level of locatable mineral development. Failure to withdraw the lands may result in maintenance of the status quo depending on the Forest Service's willingness to pursue mineral material development without the withdrawal. Failure to withdraw the lands may have an effect on the area's roadless/wilderness characteristics assuming there are commensurate increases in recreational use and infrastructure development and/or locatable mineral development.

4.5 Minerals, 43 CFR §2310.3-2(b)(3)(iii)

The only direct mineral resource effect of withdrawing the land is the preclusion of entry under the Federal Mining Law of 1872. The proposed withdrawal preserves prior existing rights of current claimholders. Removal of mineral material from unpatented mining claims can only occur with prior notice to the claimant and where "... it has been determined that removal will neither endanger nor materially interfere with prospecting, mining, or processing operations or uses reasonably incident thereto on the claims," 36 CFR §228.41(b)(3). That said the four mining claims wholly within the proposed withdrawal area may be subjected to validity examination. Should the claims prove valid they may become an impediment to the Forest Service's ability to enter into competitive mineral material sales within all or a portion of the proposed withdrawal area. Should they prove to be invalid, the Forest Service would be free to engage in mineral material sales throughout the proposed withdrawal area. Mineral material operations will diminish over time under the Forest Service's contemplated mineral material contracts and the area will be reclaimed.²⁶ As for the depletion of the mineral material resource in the area, there is every reason to believe that the Spencer Glacier will continue to recede and continue to expose mineral materials for future use.

The Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement* is premised upon the Secretary of Interior's withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. Although it is not known whether the Forest Service would pursue mineral material sales at Spencer Glacier without the withdrawal, it is telling that no mineral material sales have occurred in the area since the May 28, 1999 effective date of Public Land Order 7393.

Failure to withdraw the lands may impede the Forest's Service's ability to engage in competitive mineral material sales. Should the unencumbered lands be encumbered by mining claims, potential bidders may refrain from engaging in competitive bidding for fear of incurring third party complaints and litigation. Demand for mineral material may result in the unnecessary development

²⁶ It is not known whether the Forest Service intends to reclaim the historic sites of mineral material extraction.

of new and alternate mineral material sites elsewhere followed by the environmental degradation associated with such new development.

There has been no locatable mineral production from the area's twenty-four year old placer mining claims. The resource value of placer deposits in the area may or may not be realized whether the land is withdrawn or not.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad's and the Forest Service's recent opening of the country to recreational activity. Mineral development or the absence thereof, regardless of the commodity, will have an effect on recreational use commensurate with the level of development as outlined in Section 4.1 above.

4.6 Threatened and endangered species, 43 CFR §2310.3-2(b)(3)(iv)

There is no reason to believe that:

- a. an endangered or a threatened species is present in the area affected by the proposed action;
- b. implementation of the proposed action will jeopardize the continued existence of an endangered or threatened species;
- c. implementation of the proposed action will result in the destruction or adverse modification of critical habitat of such species;
- d. implementation of the proposed action will jeopardize the continued existence of any species proposed to be listed as endangered or threatened;
- e. implementation of the proposed action will result in destruction or adverse modification of critical habitat proposed to be designated for such species;

therefore, no consultation with the U.S. Fish and Wildlife Service is considered necessary pursuant to Section 7 of the Endangered Species Act of 1973.²⁷ Further, there is no reason to believe that the status quo of threatened or endangered species or their habitat use will change with or without the withdrawal order or the proposed uses of the proposed withdrawal area.

4.7 Economics, 43 CFR §2310.3-2(b)(3)(v)

The only adverse economic effect associated with withdrawing the land is that the economic value of placer deposits, if any, within the proposed withdrawal area will not be realized during the term of the withdrawal in deference to the economic value of the mineral materials. However, in the absence of a more thorough, current, clear and concise economic analysis, it is not possible to ascertain the economic viability of mineral material development. Nor can a definitive economic comparative with locatable mineral development be made.

Among the chief shortcomings of the existing economic data:

- The economic value of the affected placer deposits is based on likely, but still inferred, similarity with those placer resources situated on valid claims in the existing withdrawal (PLO 7393),

²⁷ 16 U.S.C. §1536 and 50 CFR §402.03(b).

- In deciding claim validity, Judge Sweitzer had to reconcile economic evaluations provided by both contestants, viewing each economic model with suspicion and acknowledging “imperfections in the cost analysis...” of both contestants,
- The economic assessment used to describe the valid placer resources by Judge Sweitzer was based on dated commodity prices and cost factors (i.e. 1992-1996 average gold prices and 2004 gasoline costs),
- The Forest Service’s Quicksilver economic model for materials development does not include the substantial capital investment needed to develop rail spur lines at Spencer Glacier.

The above aside mineral material development within the proposed withdrawal area is expected to contribute at least as much as locatable mineral development to the economy of Southcentral Alaska.

The Forest Service’s *Spencer Mineral Materials Project Draft Environmental Impact Statement* is premised upon the Secretary of Interior’s withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. Failure to withdraw the lands may impede the Forest’s Service’s ability to engage in competitive mineral material sales or adversely affect the economic yield on mineral material. Should the unencumbered lands be encumbered by mining claims, potential bidders may refrain from engaging in competitive bidding for fear of incurring third party complaints and litigation or mining claim owners may demand and potentially receive a royalty commensurate with the value of placer deposits found in the aggregate within the proposed withdrawal area.

There has been no locatable mineral production from the area’s twenty-four year old placer mining claims. The economic value of placer deposits in the area may or may not be realized whether the land is withdrawn or not.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad’s and the Forest Service’s recent opening of the country to recreational activity. Mineral development or the absence thereof, regardless of the commodity, will have an effect on proceeds realized from recreational use commensurate with the level of development as outlined in Section 4.1 above.

4.8 Floodplains and Wetlands, 43 CFR §2310.3-2(b)(4)

The administrative act of withdrawing the land will have no direct impact on floodplains or wetlands.

The following material is taken from page 81 of the Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*:

The proposed gravel extraction operations are likely to have little impact on existing wetlands and floodplains. Much of the area proposed for gravel extraction consists of well-drained alluvial outwash gravels on abandoned glacial channels and river terraces. No mapped wetlands exist within the eastern gravel extraction area, and gravel mining in this area would not impact wetlands. Mapped palustrine wetlands exist along the northern portion of the western gravel extraction area [within the proposed withdrawal area]. Under Alternatives A, B, and D, palustrine wetlands would be impacted by gravel mining operations. However, the proposed reclamation plan would create ponds and channels, ultimately increasing the amount of wetlands in both of the gravel extraction areas.

Floodplains exist along the existing channel of the Placer River, but no gravel extraction is proposed in these floodplains. The proposed gravel extraction areas are all located on higher glacial outwash surfaces or alluvial terraces. These are essentially old floodplains that were abandoned as the Placer River incised into the glacial outwash. Gravel extraction on the west side of the railroad [within the proposed withdrawal area] under Alternatives A, B, and D could potentially lower the ground surface to the level of the existing floodplain, increasing the amount of floodplain available to the Placer River.

Cumulative Effects

Cumulative effects for this analysis were assessed on the Placer River watershed. Cumulative effects of this project over the next 15 years along with other past, present, and foreseeable projects and activities in the Placer River watershed are expected to be limited. The Spencer Mineral Materials project in conjunction with the activities ... would have limited cumulative effects on the Placer River watershed. These activities will not affect the quantity or timing of surface waters. Water quality is a potential concern in the Spencer Lake area, where the heaviest use will occur. Numerous uses in addition to the mineral extraction are proposed in the Spencer area, including use from trail users, large camping areas with considerable ground disturbance, structures, rafting operations, and motorized use. Although these uses have the potential to degrade water quality in nearby streams and lakes from sedimentation caused by ground disturbance, the Placer River and Spencer Lake are not sensitive to these effects because of the coarse gravel substrate and the high sediment loads naturally present from glaciers. Potential effects to channel morphology include bank erosion from trampling and loss of riparian vegetation.

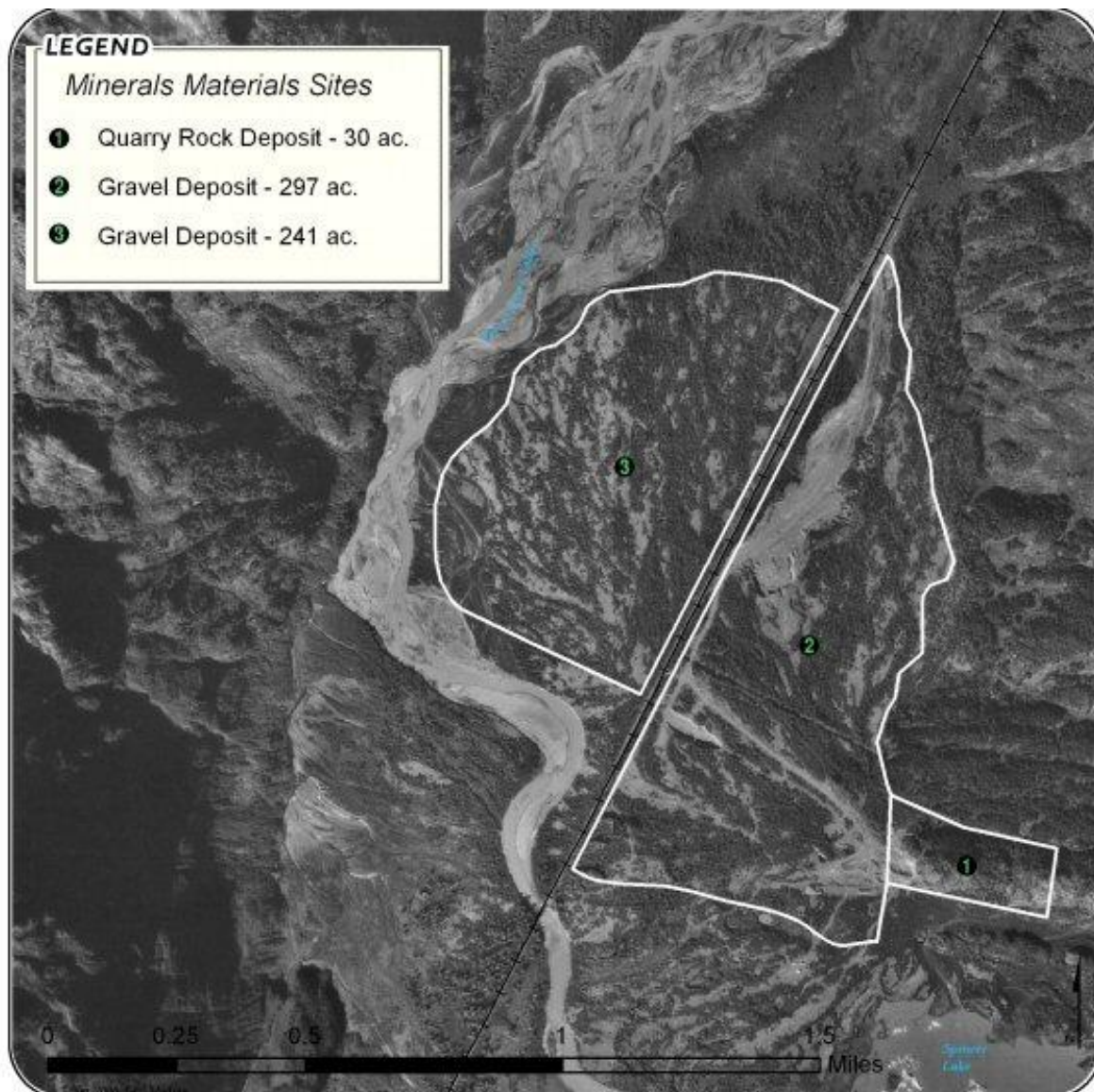


Figure 13. Map of proposed mineral material extraction sites.

The Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*, is premised upon the Secretary of Interior's withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. It is not known whether the Forest Service would pursue mineral material sales at Spencer Glacier without the withdrawal. No mineral material sales have occurred in the area since the May 28, 1999 effective date of Public Land Order 7393.

The Forest Service may or may not engage in mineral material sales at Spencer Glacier absent the withdrawal. Should the Forest Service engage in such sales, the failure to withdraw the lands will have the same effects as those discussed above. Should the Forest Service elect not to engage in

mineral material sales there would be no adverse effects on wetlands or the Placer River's floodplain associated with mineral material development.

There has been no locatable mineral production from the area's twenty-four year old placer mining claims. However, should locatable mineral development occur degradation of the Placer River floodplain and the area's wetlands will occur commensurate with the level of development. Wetland and floodplain integrity are issues of appropriate concern in analyzing a mining plan of operations.

Recreation at Spencer Glacier is anticipated to increase regardless of the withdrawal particularly given the Alaska Railroad's and the Forest Service's recent opening of the country to recreational activity.

The following material was taken from pages 3-26 through 3-28 of the Forest Service's *Whistle Stop Final Environmental Impact Statement*:

The proposed Whistle Stop project would have limited effects on water resources and hydrologic processes in the Placer River and Trail River watersheds. Potential limited effects include localized stream bank erosion, damage to wetlands and floodplains, and minor water quality concerns. However, the effects of hydrologic processes on the project can be potentially severe. Frequent flooding, natural channel migration, and avalanches can damage trail segments, bridges, and structures, especially where they are constructed near stream banks or in floodplains

Trampling of stream banks near trails and areas of concentrated use can cause soil compaction, loss of riparian vegetation, and increased bank erosion rates, which can lead to channel widening, sedimentation, degraded water quality, and loss of fish habitat. The sensitivity of channels to these impacts can be related to channel type process group (USDA Forest Service, Alaska Region, 1992). The most sensitive channels to human-caused bank erosion along the trail route are the Floodplain, Palustrine, Moderate Gradient Mixed Control, Glacial Outwash, and Alluvial Fan channels. Because Glacial Outwash channels in the project area have high natural migration rates and high sediment loads, the effects of human-caused bank erosion on these channels would be minimal. However, more considerable bank erosion concerns exist along the Placer River just downstream of Spencer Lake, where the trail route runs parallel to the river.

Impacts from the project to floodplains and wetlands would be minimal. Floodplains and wetlands that may be impacted include those at ... Spencer Lake. Potential impacts include loss of riparian vegetation, increased runoff and erosion, and trampling of wetland areas ... Erosion from the effects of concentrated use, including bank degradation, trail surface erosion, and wetland and floodplain damage has the potential to cause slight increases in sediment loads in streams and rivers in the project area. However, these increases would be minimal, especially in many of the glacial systems where sediment loads are naturally high.

Cumulative effects of this project with other past, present, and future projects and activities in the Placer River ... watersheds are minimal. Multiple uses in the Spencer

area could result in increased surface erosion and sedimentation, but these effects would have only small effects on the hydrologic conditions in nearby streams and rivers.

4.9 Subsistence

The administrative act of withdrawing the lands will not restrict Federal subsistence uses, decrease the abundance of federal subsistence resources, alter the distribution of federal subsistence resources, or limit qualified Federal subsistence user access.

Mineral material development and increases in recreational use may result in ungulate avoidance behavior; however, habitat fragmentation beyond that associated with the railroad's rail bed is not anticipated. Increased turbidity in the Placer River from mineral material development will adversely affect anadromous fish habitat and indirectly affect fish stock. However, the Placer River is very turbid where it borders the western and southern edges of the proposed withdrawal area up through its outlet on Spencer Lake. Typically, such waters are not conducive to spawning unless they lead to clear water tributaries. One such tributary exists along the northeast boundary of the proposed withdrawal area. This clear water channel has reportedly supported spawning salmon (pers. comm. S. Stash, CNF Fisheries Biologist) in the past. It has never been formally surveyed however. Further, it is postulated that fish stock is more plentiful downstream from the proposed withdrawal area.

It is anticipated that the mineral material development will not restrict Federal subsistence uses, decrease the abundance of federal subsistence resources, alter the distribution of federal subsistence resources, or limit qualified Federal subsistence user access.

The Forest Service's *Spencer Mineral Materials Project Draft Environmental Impact Statement*, is premised upon the Secretary of Interior's withdrawal of the proposed withdrawal area, pages 4 – 6; pages 38 – 39. Although it is not known whether the Forest Service would pursue mineral material sales at Spencer Glacier without the withdrawal, it is telling in that no mineral material sales have occurred in the area since the May 28, 1999 effective date of Public Land Order 7393.

The Forest Service may or may not engage in mineral material sales at Spencer Glacier absent the withdrawal. Should the Forest Service engage in such sales, it is anticipated that mineral material development will not restrict Federal subsistence uses, decrease the abundance of federal subsistence resources, alter the distribution of federal subsistence resources, or limit qualified Federal subsistence user access. Should the Forest Service elect to forgo mineral material development at Spencer Glacier, it is also anticipated that the absence of mineral material development will not restrict Federal subsistence uses, decrease the abundance of federal subsistence resources, alter the distribution of federal subsistence resources, or limit qualified Federal subsistence user access. It is however assumed that the absence of mineral material development at Spencer Glacier will allow for an increase in the abundance of subsistence resources at Spencer Glacier particularly ungulates, subject to increases in recreational use of the area and the potential for locatable mineral development.

There has been no locatable mineral production from the area's twenty-four year old placer mining claims. Locatable mineral development will affect subsistence resource use and substance resource

users whether the land is withdrawn or not and is an issue for appropriate consideration in analyzing a mining plan of operations.

5. Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, and local agencies during the development of this EA.

5.1 Forest Service ID Team Members

Tim Holden, *IDT Leader* – B.S., Fish & Wildlife Biology (1989), University of North Dakota

Heather C. Hall, *Archeologist* – B.A., Anthropology (2000), University of Alaska-Anchorage

Sean Stash, *Fisheries Biologist* – M.S., Fish & Wildlife (2001), Montana State University; B.S., Biology (1992), Chico State

Carl Madson, *GIS Specialist* – Forest Service GIS experience since 1993

Bill MacFarlane, *Hydrologist* – M.S., Watershed Science (2001), Colorado State University; B.A., Geology (1996), Colorado College

Andy Schmidt, *Lands and Recreation* – B.S., Forestry (Emphasis: Forest Resources Management) (1983), University of Montana

Carol Huber, *Mineral & Geology Specialist* – B.S., Geology (1989), University of Alaska-Fairbanks

Steve Hohensee, *Mineral & Geology Specialist* – M.S., Geology (1989), University of Missouri-Columbia

Adam McClory, *Recreation, Special Use Permits* – M.S., Forestry, 1999, Northern Arizona University

Steve Zemke, *Subsistence* – B.S., Fisheries Management (1975), University of Idaho; Subsistence coordination since 1993

Aaron Poe, *Wildlife Biologist* – M.S., Natural Resources (2008), University of Arizona; B.S., Geography, B.S., Fisheries & Wildlife Management (1998), Utah State University

5.2 Bureau of Land Management – Cooperating Agency Team Members

Jolie Pollet, *BLM – Alaska, State Office, Planning and Environmental Coordinator*, B.A. Geography, New Orleans University (1993); M.S., Forestry, Colorado State University (1999).

Rob Ellefson, *BLM – Alaska, State Office, Geologist*, B.S., Geology, University of Minnesota (1994).

Geoff Beyersdorf, *BLM – Anchorage Field Office, Subsistence Coordinator*,

James F. Moore, *BLM – Anchorage Field Office, Planning and Environmental Coordinator*, B.A. Michigan State University (1977); J.D., University of Detroit Law School (1982)

5.3 Federal, State, and Local Agencies

Chenega IRA Council

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Appendix A – Mineral Potential Report

Appendix B – Proof of notice to the State of land use requiring water utilization.